

Briefing note: proposed changes to NSW's logging laws

The NSW Government is consulting on the most dramatic changes to our logging laws in a generation. The changes are overwhelmingly negative, and if implemented will lead to the deliberate conversion of many public native forests into monoculture plantations with an extreme risk of driving local and regional extinctions of native wildlife.

Part 1: Background and key changes

The new logging laws, called Integrated Forestry Operations Approvals (IFOAs), will divide coastal NSW into three zones: the Eden alternative coupe zone (which will see little change); an intensive zone on the north coast incorporating 140,000ha of coastal forests between Taree and Grafton (where logging will intensify dramatically) and the 'selective' zone covering all other areas (where logging will intensify by approximately 50%).

The changes to the IFOAs are a result of the need to meet the Government's 'dual commitment' to no reduction in wood supply and no erosion of environmental values¹, and to reduce costs. The Natural Resources Commission (NRC) report² that accompanied the proposals stated: "*following analysis of the expected cumulative impact of the agreed and recommended settings, the Commission has determined that it is not possible to meet the Government's commitments around both environmental values and wood supply*". In addition, a range of external factors outside of the IFOA settings affect the ability to meet the commitments both now and into the future, such as emerging threats from climate change and changing fire regimes."

Koala prescriptions and Threatened Ecological Community (TEC) protections are identified as causing the timber shortfall requiring intensification of logging. This is false. TECs were never allowed to be logged under the current regime, so citing the EPA's 2016 TEC mapping³ as an impact on timber supplies is misleading. In addition, the koala prescriptions (see Part 2) require protection of trees of just 20cm diameter. These trees are not large enough to provide sawlog timber, and therefore their protection cannot be deemed to negatively impact wood supply.

The NRC suggests that 2015 extensions to Wood Supply Agreements may have been ill-advised: "*In mid-2015, the Commission advised government on the risks associated with the species-specific contract and five-year contract extension provided to Boral as part of the high-quality wood supply quota buyback on the North Coast.*" It further states that "*the current [timber] supply issues are expected to increase in future as the impact of climate change places additional stress on native forests, increasing the risks to forest health and both conservation and production objectives*". In this context, the new IFOA appears to be an effort to obtain as much wood in as short a timeframe as possible. 'Frontloading' of logging operations (see Part 2) via transition arrangements and permitting the logging of old-growth blackbutt and alpine ash trees up to 160cm diameter (see below) supports this view.

By prioritising timber extraction over environmental protection, the new IFOA abandons the commitments NSW made under the National Forest Policy Statement in 1992, including the concept of Ecologically Sustainable Forest Management. This is a fundamental shift in forest management, occurring with insufficient scrutiny .

Key changes

The detail of proposed changes is outlined more thoroughly in Part 2. The largest changes will accrue in north-east NSW, with a logging regime hitherto confined to the Eden area extended to 140,000ha of coastal forests in an intensive harvesting zone between Taree and Grafton—incorporating much of the proposed Great Koala National Park⁴. So-called 'selective' harvesting will also increase greatly in intensity, and will be able to be applied throughout the entire coastal zone managed under the new IFOA.

¹NSW Forestry Industry Roadmap: https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/711851/nsw-forestry-industry-roadmap.pdf

²Advice on Coastal IFAO remake – Outstanding settings: <http://www.nrc.nsw.gov.au/ifo>

³Assessment of Threatened Ecological Communities of the Coastal Integrated Forestry Operations Approval Region. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/forestagreements/assessment-threatened-ecological-communities-coastal-ifo-region-160624.pdf>

⁴GKNP brochure available at: <https://drive.google.com/file/d/0B3sKmVn4kYOBBfhzS1J3NnhyNVE/view>

The expert panel⁵ repeatedly referred to increased intensity (so-called Heavy Single Tree Selection, STS) that has been occurring in northern NSW over the last 11 years, highlighting that this was not the intent of the original IFOA. Confirming this, the NRC report states that *“intensive harvesting has been practiced since 2007 but has not previously been codified”*. Forestry Corporation is therefore being rewarded for breaching its social license—and the law. No effort was made to assess the environmental impact of this 11 years of intensive harvesting as a basis upon which to design the new regime, which formalises this practice.

1. Increases in logging intensity, particularly in north-east NSW

The maximum size of legal clearfelling in northern NSW under the old IFOA was 2,500m², or 0.25ha (defined under Australian Group Selection). The new proposals will see a maximum size of 45ha—a 180-fold intensification of logging—throughout a 140,000ha zone with 2,200 hectares allowed to be clearfelled⁶ each year. It is not credible to suggest that an escalation of intensity of this magnitude can be driven by anything other than the prioritisation of timber extraction over conservation. This is recognised in several places by the expert panel, for example: *“the intensive harvesting zones are being formally introduced to prop up an unsustainable wood supply arrangement at the expense of the environment”*.

The dramatic intensification of logging in northern NSW under the new rules will result in the rapid homogenisation of large swathes of forests at the landscape and stand scale, with conservation areas concentrated in ‘clumps’ (see Part 2), summarised thus by a member of the expert panel: *“it must be clearly understood that these proposed intensive harvesting practices are effectively clear felling diverse native forest to replace with even age native plantations in a deliberate manner.”*

The intensive harvesting will render the 45ha practically useless for hollow-users like gliders for centuries, and the short return time (10 years) to adjacent coupes means forests will be rapidly simplified over large areas. Each Local Landscape Area (= a 1,500ha area of forest) can be cut over in 21 years so specialist species will probably never be able to use harvested parts of LLAs again for denning (due to the lack of hollows), they will likely have limited utility as food resources and they are likely to act as barriers to dispersal (potentially mitigated by the size and configuration of clumps and exclusions, which are not yet clear).

As well as the intensive harvesting zone, increased basal area removal through ‘selective’ harvesting is applicable in all other areas except Eden, which is similar to the intensive zone but with a return time of just five years. New retention rates (a change from the previous maximum removal) of 10 and 12m²/ha are lower than the old prescription which equated to 10-28m²/ha (with retention increasing with forest productivity). This is a large increase in intensity and is identified by the NRC as a trade-off for the ‘clump budget’ to maintain wood supply.

2. Old-growth logging

The NRC is candid in stating that after giving their advice to the Government that the dual commitments would result in a shortfall of between 7,600 and 8,600m³ of high quality timber per year due to the koala prescriptions, protections for Threatened Ecological Communities (TECs) and some dieback areas being removed from production, they were asked to ‘re-map and rezone’ old-growth and rainforest to make up the shortfall.

After a trial remapping pilot in north coast state forests using reduced criteria, the extent of old-growth was reduced by 78% and rainforest by 23%. The NRC stated that: *“if there is a verified shortfall in wood supply, remapping and rezoning former old-growth areas would most likely meet this shortfall and would balance the twin commitments, provided the Commission’s associated risk-based recommendations are implemented.”*

Opening protected old-growth for logging means revoking and logging areas included in the informal reserve system, agreed by the State and Commonwealth Governments as part of the Comprehensive, Adequate and Representative Reserve System. These areas were counted as contributing to forest ecosystem, national estate, and fauna and flora targets. Logging these areas is therefore logging the public reserve system. Opening areas believed to be

⁵Threatened Species Expert Panel Final Report. Available for download at: <https://engage.environment.nsw.gov.au/forests>

⁶Although there are some requirements in the intensive zone to retain a few small trees for koalas and all hollow-bearing trees, in reality the historic impacts of logging mean there are few hollow-bearing trees left. There is no minimum basal area retention requirement so there will be very little left in intensively logged coupes. Hence the use of the term clearfell.

permanently protected sends a strong message that permanent protections under the new regime are only permanent until they are deemed not to be.

3. Giant, hollow-bearing, recruitment and eucalypt feed trees

The new proposals are to retain all trees greater than 140cm diameter, except for blackbutt and alpine ash where the threshold for retention rises to 160cm. These trees were already required to be protected as hollow-bearing trees. Giant trees are old-growth. Logging trees of >140cm diameter is logging old-growth trees. This indicates clearly the desperation to obtain as much blackbutt as possible, but also indicates that Forestry Corporation anticipates the remapping of old-growth and reduction of headwater buffers to make available giant trees. In fact, all trees >100cm should be protected as a matter of urgency because they are now so rare in production forest landscapes. As one panel member stated in regards the protection of giant trees: *“all giant trees should now be a given as harvesting in public forests is meant to be regeneration harvesting not old growth harvesting. All trees over 100 cm dbh should now be protected regardless of what regimes are adopted”*.

Hollow-bearing trees will be one of the habitat features prioritised for retention in clumps under the new regime, though retention rates will be significantly reduced. Outside clumps, all hollow-bearing trees are to be retained in the intensive zone, and 5/ha in the selective and Eden alternative coupe zones. However, the long-term survival of hollow bearing trees in the intensive and Eden zones is optimistic at best. Most disturbingly however, the new regime requires no retention of recruitment trees (the next generation of hollow-bearing trees) outside of clumps. The current requirement is to retain one recruitment tree selected from the largest trees for each habitat tree, and even this is inadequate. The practical implication of this is that there will be no trees to replace the remaining hollow-bearing trees when they die. This will mean that hollow bearing trees will disappear over time. Requirements to retain mature eucalypt feed trees are to be removed. In practice this will mean large tracts of the harvest area devoid of nectar resources—important for critically endangered species like swift parrot and regent honeyeater.

The harvest areas are likely to functionally collapse in an ecological sense in the medium term, as their ability to provide resources required by forest species will be almost non-existent.

4. Changes to environmental protections

The new proposals are a fundamental shift from the last 20 years of management that remove the need to survey, and protect occupied habitat, for most threatened species. The changes are supported by almost no data. The expert panel frequently referred to this lack of monitoring and data upon which to base environmental protections, and in many cases the panels' recommendations were based on instinct and ecological experience rather than data. Most species-specific prescriptions are to be removed and replaced with permanent retention of clumps on different scales. Perversely, koalas will only need to be searched for in southern NSW, where they are almost extinct, but even then only in a small proportion of forests. The new regime is supposedly to be accompanied by a monitoring program (despite lower costs being a driver of the changes), but there is no baseline upon which to ascertain trends because Forestry Corporation has not undertaken monitoring in the past. If the protections don't work—and indications are they won't—we'll be monitoring species to extinction. The current regime was meant to be based on monitoring and adaptive management that was never done, so there is no assurance that it will be implemented this time either. With this simplified—and far riskier—approach the consequences will be far higher.

This approach is therefore a huge landscape-scale experiment using some of the world's most biologically diverse forests. Implementing this approach with the degree of uncertainty evident discards the precautionary principle and discards the principles of Ecologically Sustainable Development and Ecologically Sustainable Forest Management.

5. Stream buffers

Some headwater streams will have reduced buffers partially reinstated (after being removed in 2004), most headwater streams will have their current buffers reduced from 10m to 5m. Expanded exclusion areas established along numerous streams around records of threatened frogs and other species are to be removed. That means many areas that have been protected for at least 20 years are now open to logging. Riparian zones provide essential habitat for numerous species, notably frogs, and often contain the largest trees (because they're more fertile sites), the most significant habitat features for threatened species (such as large hollows for gliders and owls) and provide connectivity. These riparian areas are therefore some of the most ecologically important features of forests. The

changes are a significant reduction in protection, particularly given the panel's view that the riparian areas that have been protected for the last 20 years were often the few areas that still retained habitat elements and structure of a native forest and that it is "*important to try to ensure these areas remain protected*".

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Part 2: More detail

1. Front loading

The transition arrangements permit logging intensity even greater than proposed in the new regime over the first five years by permitting five coupes of 60ha (compared to the 45 proposed) to be logged each year (25 in total) and reducing the return time to an adjacent coupe from 10 years to seven years. The latter suggests that Forestry Corporation will be permitted to treat areas logged since 2007 under 'Heavy STS' as a viable component of the intensive harvest zone, and thus any coupe logged under Heavy STS prior to 2011 can have its adjacent coupe logged in the first five years of the new regime, provided the total extent does not exceed 2,200ha in the intensive zone. It seems that there is a concerted effort to obtain as much wood as possible in as short a time as possible.

2. Koalas

The key change in the new rules is a move away from searching for koalas in northern NSW to a predictive habitat model with prescriptions. Some 200ha of previously identified Koala High Use Areas (HUAs) are to be carried over, where they haven't since been logged, though these are not recorded in a digital database and are therefore largely unknown. Two models (DPI predictive habitat model and OEH koala likelihood model) are used to map forests according to habitat quality, which then determine prescriptions. The highest prescription (when both models return 'high' values) is the retention of 10 feed trees of minimum 20cm diameter per hectare in each map cell (6ha). The other prescription is retention of 5 feed trees of 20cm per hectare if mapped 'moderate habitat' cells cover 25% of the net harvestable area. However, there are several problems with this approach: there is no longer a requirement to look for koalas and fully protect the areas they are actually using, koalas prefer big trees⁷ and mature forests⁸, and trees of just 20cm are therefore sub-optimal habitat and 80-90% of them are not used; there is no requirement to preferentially select trees with evidence of koala use; modelling koala habitat is not an accurate predictor of koala occurrence because of the influence of previous disturbance and socio-biology⁶; the need to maximise timber production means the model applies the lower prescription where one returns 'high' and the other 'moderate' (thus reversing the precautionary principle); the trees can be retained anywhere in the harvest area (therefore the objective of connectivity may not be achieved); 43% of the modelled highest quality habitat is in the proposed intensive harvesting zone and much of it has already been intensively logged; the prescriptions will result in only a single cohort of trees being retained (as Forestry Corporation is likely to protect the smallest trees possible to minimise the impact on wood supply); under current selective logging prescriptions all trees under 20cm are required for retention, not just a few, and the prescriptions are based on little data, with the NSW Chief Scientist highlighting a lack of data to assess the previous prescriptions⁹.

The NRC instructions to remap and rezone old growth are to make up for a timber shortfall anticipated as a result of these prescriptions, *not* from the koala reserves announced in the koala strategy. The koala reserves therefore hold no exploitable timber, and in some cases very few Koalas, and it is not yet demonstrated that prescriptions will indeed result in a timber shortfall to justify logging old growth—in fact this is implausible as trees of 20cm cannot produce sawlog timber.

3. Environmental protections

Environmental protection in the new regime moves away from prescriptions and towards permanent retention of habitat values at different scales. However, the immediate question must be how can anyone have confidence that protection really is permanent when Government is now remapping old growth in informal reserves and opening up riparian buffers to logging?

A minimum of 20% of each LLA is proposed to be protected. However, in many LLAs this is not additional protection, because existing exclusions already protect in 20% for most LLAs according to the panel. Further, any conservation gains through the 20% rule will likely be lost via increased logging intensity in the rest of the landscape.

⁷Moore and Foley 2005: Tree use by koalas in a chemically complex landscape. Nature 435.

http://www.nature.com/nature/journal/v435/n7041/supinfo/nature03551_S1.html

⁸Koala Habitat Mapping Pilot. NSW State Forests. <http://www.epa.nsw.gov.au/resources/forestagreements/koala-habitat-mapping-pilot-160038.pdf>

⁹NSW Chief Scientist and Engineer 2016: Report of the Independent Review into the Decline of Koala Populations in Key Areas of NSW.

http://www.chiefscientist.nsw.gov.au/data/assets/pdf_file/0010/94519/161202-NSWCSE-koala-report.pdf

In addition to the 20% LLA protection there are two types of clumps proposed: wildlife habitat clumps (5% in each LLA) and tree retention clumps (5% of each compartment in the regrowth zone, 8% in the non-regrowth). The former must be >1ha (unless a carry-over exclusion that is less than this); the latter between 0.1 and 2ha. Wildlife clumps must be identified prior to logging, and tree retention clumps must be done 100m in advance of logging. These are to replace the current requirements to survey and protect occupied habitat for a raft of threatened species, subjectively chosen patches are no substitute for actual habitat. A key problem is that these are to be selected by the Forestry Corporation at their discretion, with timber supply a primary consideration,

Permanent retention over many logging cycles is good in theory, but the new proposals are shrouded in uncertainty, and undermined by the loss of species-specific exclusions and the dramatic increase in logging intensity throughout the rest of the landscape because of the requirement to maximise timber extraction. For such an approach to have any validity they would need to be based on surveys to ensure the clumps encompass the best threatened species habitat and identified by experts independently of the Forestry Corporation. The lack of monitoring data upon which to base decisions, and subsequent uncertainty around those decisions is evident in the expert panel report.

For example, how will species (particularly forest specialists like hollow-users) respond to a landscape where resources are clumped, with large tracts of the landscape devoid of resources? Will this lead to more competition and exclusion, and therefore fewer animals overall? If so, what are the long-term implications on persistence? Clumps are highly vulnerable to stochastic events like fires, so their persistence is not guaranteed. If species are concentrated in clumps, the sudden loss of clumps may lead to local extinctions. What will the distances be between clumps and what will be the eventual size of clumps? The application of a fixed 'clump budget' in each LLA means that decisions must be made as to whether there are lots of small clumps, one or two big ones, or a combination. We do not know what the best configuration is, and no single configuration is likely to suit all species. Much will depend on the spatial arrangement, connectivity and habitat quality of clumps. Clumping may work in a system with sustainable logging rates (i.e. where selective harvesting is still applied and the surrounding landscape is permeable to species), but is unlikely to effectively protect the full suite of species when the key motivation is clearly timber extraction. It is proposed that previously unmapped rocky outcrops can be included in habitat clumps. They should have been protected already, so this is a free pass. It is a near-certainty that the substitution of protection for habitat actually utilised by threatened for subjectively chosen clumps will have disastrous consequences for many threatened species.

The OEH scientists on the expert panel say: "*in North East NSW, hollow-dependent species are already in very low numbers or absent from the harvest area in the regrowth forests. Implementing a more intensive logging regime will mean that these species will be increasingly dependent on protected areas*". They then point out that the areas currently zoned for protection in production forests are biased away from preferred habitat of these species, and are concentrated in escarpment forests. They state that the proposals will result in "*a patchwork of areas that have not been properly assessed for their ability to sustain viable populations of threatened fauna or provide connectivity. There has been no systematic assessment at a regional or sub-regional scale.*" This again demonstrates the deep uncertainties surrounding the regime.

4. Coupe sizes v return time

The design and placement of environmental protections under new regime is predicated under the acceptance of intensive harvesting as a viable model for forest management. This is deeply flawed in forests of such biological value and led to surreal debates (based on little other than instinct) as to whether it was better to clearfell larger coupes (up to 80ha suggested) or leave longer time periods prior to destroying adjacent coupes. Intensive logging of coupes of 45ha will impact many individuals of the larger arboreal species that the IFOA should be trying to protect. Even bats, that typically require less developed habitat features than gliders, showed little recovery after 23 years in Eden according to a member of the panel. Early successional species (e.g. some rodents) may benefit from the changes, but at the expense of other species.

5. Mixed intensity harvesting

Mixed intensity harvesting means that the more intense 'selective' logging and intensive logging can occur in the same LLA. This is supposed to only occur in areas mapped for this purpose, prior to logging occurring. This appears to

give a means to bypass the annual restrictions on the application of intensive harvesting by enabling coupes adjacent to intensively logged coupes to be 'selectively' logged, rather than waiting for 10 years to return for intensive logging. This is another way of maximising timber production in the early years of the regime.